

NOYES (H. D.)

CLINICAL CONTRIBUTIONS.

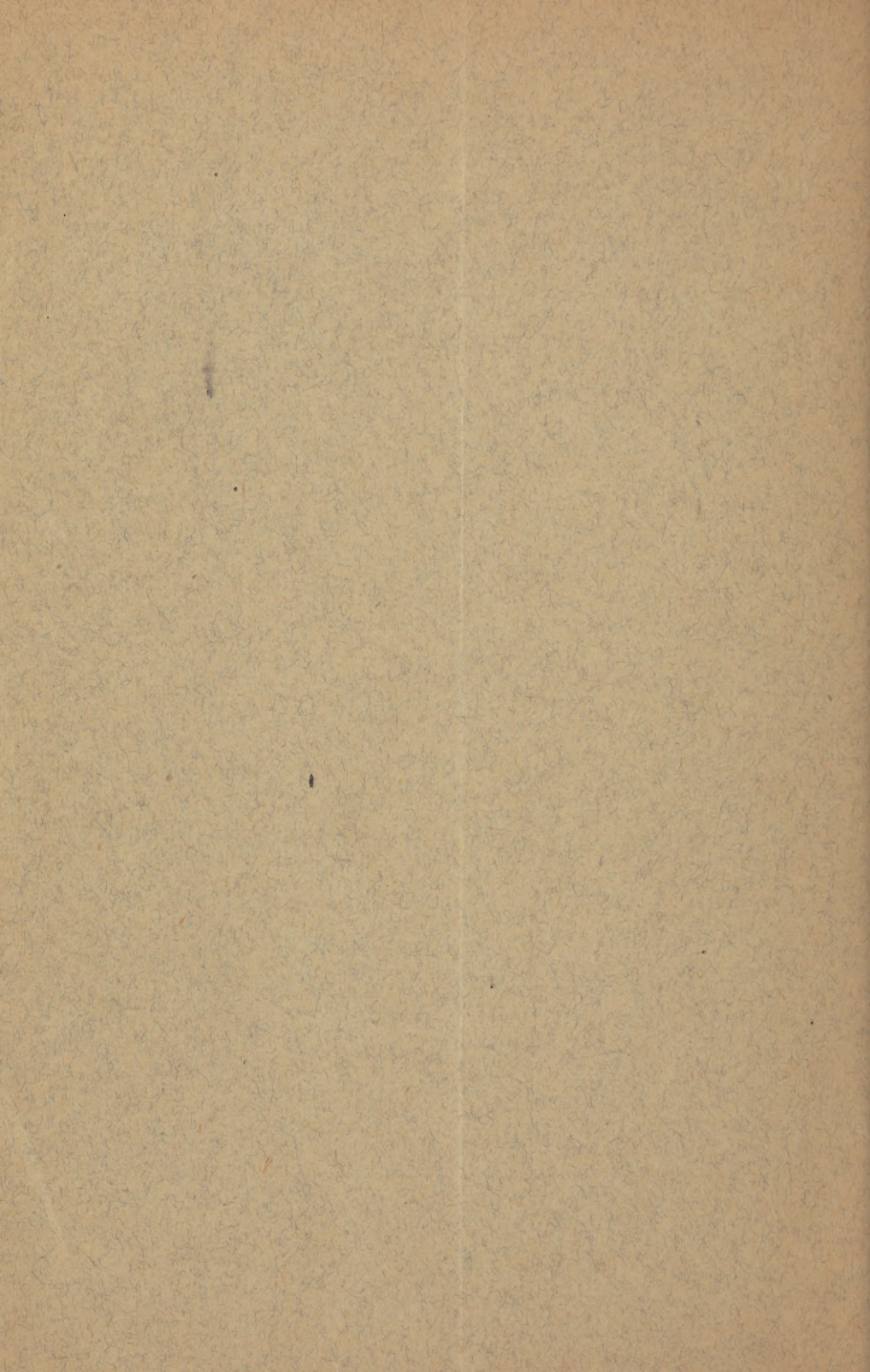
BY

HENRY D. NOYES, M.D.

(With one illustration.)



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THE following cases form a series in which some kind of PLASTIC OPERATION on the skin was necessary for the correction of deformities, and the variety, both of pathological character and of surgical proceeding, seems to justify their narration.

CASE I. EPICANTHUS.—Miss S., aged nineteen, admitted January 15, 1892, presents the usual appearances of this condition in a marked degree. Of the immediate family, the father and uncle are similarly affected. The palpebral fissures are very small. The crescentic folds of skin coming down over the inner portion of the brow, concealing the canthus, are deeply defined. There is no ptosis, as sometimes occurs. She has myopia of twelve dioptries—vision not taken. Patient's appearance conspicuously unpleasant because of the deep depression over the root of the nose. Under ether, canthotomy was done for each eye, and a further proceeding undertaken with a view of removing the crescentic folds and elevating the bridge of the nose at the same time. Two parallel and vertical incisions were made at each side of the median line over the root of the nose, extending slightly upon the forehead to include a strip of skin about one centimetre wide and one and one half centimetres long. A rectangular flap about half an inch wide was now carried from the middle of each one of these incisions outward toward the inner canthi. They were dissected up, freely loosened, and drawn toward the median line, and their bases so completely undermined as to obliterate, when drawn together, the crescentic folds. They were passed underneath the central bridge-like piece of skin. Their cutaneous surface removed

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where they would be covered from view, and stitches introduced through the three superimposed layers, thus quilting them together and accomplishing at the same time an elevation of the root of the nose and almost complete obliteration of the crescentic folds. Some trimming had to be done at the bases of these transverse flaps to make the parts smooth, and, in addition to sutures, a dressing of cotton fibres and collodion was applied. No suppuration ensued. Recovery took place satisfactorily. Deformity greatly relieved; patient well satisfied. Discharged on the 24th day of the month.

CASE II. NECROSIS OF ORBIT; DEFORMITY REMOVED BY BURYING A FLAP.—Mr. E. H. S., aged thirty-six, admitted January 6, 1892. When five years of age he had necrosis of the temporal and inferior portions of the right orbit with exfoliation of bone which must have been nearly a centimetre in depth. The floor of the orbit sloped away to a marked degree by the existing defect, and the eyeball was displaced downward and outward below the level of its fellow. At the present time the unsymmetrical appearance of the two sides of his face is very noticeable, and, while the left eyeball is normal in position, the right has dropped downward and outward nearly half an inch below its proper level, and its movements are greatly limited. At the temporal and inferior sides of the orbit is a deep furrow corresponding to the orbital edge, and here cicatricial tissue is adherent. Deformity is most decided upon the inferior wall of the orbit, and the problem presented is, to attempt to fill this deep furrow, which has a crescentic form, and, by supplying the defect, to diminish the prolapse of the eyeball. To this end, incisions were made parallel to the lower border of the orbit in a slightly curvilinear direction, the convexity downward, from a point beyond the outer margin of the orbit to the side of the nose. The upper one was half an inch below the edge of the lower lid. The lower incision passed along the lower border of the adherent cicatrix, and they enclosed the scar tissue for a breadth of about one centimetre. The portions of skin above and below these incisions were dissected up freely and rendered mobile. From the outer extremity of the lower of these incisions a narrow flap about one and a half inches long was formed, running downward and outward in front of the ear, which should be nearly equal in length to the incisions parallel to the lower lid. At its base the lines of the flap were carried upward and outward with a curve toward the temple, so as to permit its being twisted without puckering. It was then drawn inward and laid in the furrow above described, its apex being pushed through a slit made for its reception in the integument at the side of the nose, and secured by a suture. The wound made by lifting this flap was closed

together by dissecting the adjacent tissues, thereby giving the flap greater reach. The flap being held in position by the thread at its apex, was covered over by bringing from above and below the adjacent skin. The edges were stitched together, leaving the long flap buried underneath. The epidermis of the flap had been removed to improve its chances of adhesion. By the manœuvre described, the deformity at the outer angle of the orbit, which was the deepest, received an adequate amount of tissue by the twisting of the pedicle, and the submerged flap was made thick enough to attain the required level, while the skin drawn over it from above and below was comparatively thin. I gave myself no trouble about the scar tissue, leaving it wholly undisturbed. Numerous fine sutures were employed and a cotton and collodion dressing. On the third day some pus was found exuding from the base of the flap: syringed with bichloride 1:5000, and wet bichloride dressing applied. On the 25th the patient was discharged, deformity very largely removed, the eyeball partially lifted and replaced, and its mobility improved.

In November, 1893, the patient again appeared and the conditions were, under the circumstances, exceedingly satisfactory. The scars are inconspicuous and his features would not readily attract attention. It is thought that this device for burying a flap for such purposes, if not original, is certainly rare.

CASE III. BLEPHARO-PHIMOSIS.—Mrs. B., aged twenty-five, admitted October 13, 1892. Entropium of both lids of each eye resulting from trachoma which had arrived at the stage of atrophy. The conjunctival sacs almost obliterated. The corneæ moderately clear. The palpebral fissures greatly shortened because of the shrinkage of all the tissues of the lids. None of the ordinary operations for such conditions were thought appropriate. I resolved to introduce at the outer angles of the lids, flaps of skin in accordance with the method described in 1876, in the Transactions of the Fifth Ophthalmological Congress. The usual incision for canthoplasty is made, and from its extremity an incision is carried upward and a little backward beyond the tip of the brow and a small elongated flap lifted, turned downward and inward, to be inserted into the space formed by separating the edges of the first incision. To prevent wrinkling, the posterior incision of the flap must be carried far down upon the cheek and the breadth of the flap proportioned to the amount of phimosi to be corrected. On the fourth day a little suppuration was noticed notwithstanding the use of aristol at the beginning. The patient was discharged on the 16th. She was re-admitted on December 9, 1893, for the performance of the same operation on the opposite eye. At this time the dressing consisted of bichloride 1:10,000. Re-

mained in the house eleven days. In both eyes the phimosis was cured, and the trichiasis ameliorated, but not entirely removed. She was admitted for the third time January 20, 1893, when Burow's operation was performed on the upper lid of each eye to remove the turning in of the cilia. Reaction was rather severe, and iced lotions were applied for five days. On the ninth day she was discharged. The incurvation of the lids was entirely removed, including the trichiasis. In the latter part of November, 1893, the patient showed herself at the clinic, presenting the scars which the flaps had caused, blepharo-phimosis totally removed from both eyes, and no relapse of entropium had occurred. The patient expresses herself as enjoying much comfort. The proceeding thus described is naturally not one to be chosen for cosmetic effect, but it is adapted to cases of extreme severity, which are, fortunately, rare; and it gives relief for which no other method is available. I present this as a late and confirmatory experience.

CASE IV. ECTROPIUM OF BOTH EYELIDS. WOLFE'S TRANSPLANTATION.—Man, aged fifty-nine, admitted April 29, 1892, with extensive deformity of the left eye resulting from a burn by the explosion of a lamp. The edges of the lids were freshened without removing the cilia, and stitched together, leaving small apertures at the outer and inner angles, and a sufficiently large flap was taken from the arm according to Wolfe's method, to fill in the gaps made by the dissection of the lids. The case is put on record without further description, simply as an instance of removal of deformity of both eyelids at one sitting by a single large flap made to cover them both. No suppuration took place, the flaps adhered, the patient was discharged on the seventh day. The lids were left closed for several months, according to the usual practice, before being slit apart, and the ultimate result was good.

CASE V. EPITHELIOMA OF THE LOWER LID.—Miss W., aged sixty-three, admitted Dec. 16, 1892. The patient had had an epithelial nodule for about twenty years on the lower lid of the right eye. Its inner half had developed ulceration, and in 1890 I removed the epithelial growth, which was found to have extended into the orbit and invaded the ethmoid, and in the operation I removed the inner two-thirds of the lower lid, exposed the insertion of the internal rectus muscle, and filled the gap by a flap brought down from the median line of the forehead. For a good many months no further trouble took place, but a repetition of the disease occurred at length, and the patient was unwilling to submit to further surgical proceedings. Under the use of mild solutions of *hypo-chlorite* of soda, Labarraque's solution, 1 to 10, the ulceration was held in abeyance and would at times become almost well. Finally, as the



conjunctiva became invaded, the cornea also participated in the process, and it became so deeply involved in ulceration and suppuration that something definite became inevitable. Nothing was now possible but enucleation of the globe, which was performed, and, in addition, the conjunctiva of the lids and their ciliary borders were dissected away, the palpebral fissure closed, and the orbit shut up. The patient thereafter wore a patch over the left orbit. It has been impossible to give notes of the successive periods when these steps were taken. At length, in the fall of 1892, it appeared that we were not yet done with the disease. A tumor made its appearance in the tissues of the orbit on the side toward the ethmoid. It was hard and yet elastic, it had developed within four weeks; within four days it had rapidly increased and was breaking down into a soft and fluctuating condition; it seemed to be about the size of a chestnut. Its removal was advised and acceded to. The patient was etherized December 16, 1892. Operation begun by exploring the mass, and a turbid serum escaped on puncture. Further investigation showed that the deeper part of the orbit was occupied by a new growth as far back as the apex. The ethmoid cells were opened in curetting the tumor. The roof was found comparatively healthy, and all the contents of the orbit, except a small amount of fat near its apex, were removed. The cavity was washed with bichloride 1:2000, filled with euophen, and iodoform gauze afterwards applied. Reaction was not extreme and the orbit was almost completely closed by January 25th, the upper lid adhered to the parts below and behind. The patient discharged.

This tumor was examined by Dr. John E. Weeks, Pathologist to the Infirmary, and proved to be fibro-sarcoma, the cells round and spindle-shaped, and in parts arranged so that the tumor has something the appearance of carcinoma. The arrangement last mentioned would cause the tumor to be termed alveolar fibrous sarcoma. In November, 1893, I am able to report that there has been no recurrence of the disease. The patient is entirely comfortable. The conversion of an epithelial disease into a sarcoma is a fact occasionally observed.

The photograph taken in October, 1893, exhibits the kind of flap removed from the forehead, its great length, the little disturbance of the tissues about the root of the nose, and the almost entire disappearance of the scar upon the forehead. The deep cavity which the orbit displays is lined completely by the

skin of the upper lid. The method employed in bringing down the frontal flap has been described in Noyes' *Diseases of the Eye*, page 254, first edition.

Besides the case now reported, I have gone through a similar series of operations in two other patients. In each one the contents of the orbit were finally removed and the cavity covered by integument. In one instance, the woman, aged fifty-nine, has for ten years been free from relapse. In another instance a man aged forty-five has enjoyed immunity for seven years.

CASES OF CATARACT.

The following cases are put on record, because they present features of unusual character, and may, for this reason, be valuable :

CASE VI. CAPSULAR CATARACT, FOREIGN BODY ON RETINA FOR SIXTEEN YEARS.—W. H. C., aged twenty-two, book-keeper, born in England, was injured in the left eye sixteen years ago in a manner which he could not describe, but which resulted in the production of cataract. Admitted January 8, 1892.

The eye appeared normal, there were no adhesions of the iris to the lens, there was good perception of light in all directions, and the lens had undergone absorption, leaving a white, wrinkled, and thickened capsule. The middle of the mass had shrunk more than its periphery, presenting a flat discoid appearance, and was partially separated from the periphery by an imperfect fissure. On full dilatation of the pupil it was evident that the most desirable proceeding would be the removal of the central disc, and to leave behind the ring-like margin. A narrow keratome was passed through the cornea from the temporal side, entering the cataract on its nasal side near the margin of the pupil, and withdrawn. An iris forceps was passed through, seized the central portion of the capsule, drew it out, and it was cut off with the scissors. No vitreous lost. Within four or five days the patient was able to be examined with the ophthalmoscope. Pupil was clear, and upon the fundus a small foreign body, like a piece of iron, was found imbedded in the retina, just below the macula. It was surrounded by pigment, indicating old choroiditis. There was no improvement of vision as the result of the operation, but the intended cosmetic effect was secured.

February 19th.—The patient presented himself with a semi-circular piece of capsule lying in the anterior chamber. It was

pigmented and, as was afterwards discovered, calcareous. The color was like that of dried glue. He says that this occurrence took place some days before, without any injury having been inflicted. A slight circumcorneal injection was beginning to appear. It was thought best to get rid of the foreign body, as it must be regarded, and which was supposed would be easily effected. A wound was made with a Beer's knife, and an attempt to bring the foreign body out with the forceps was entirely foiled by its breaking up into several pieces, which escaped into the vitreous humor through the pupil. Considerable vitreous of a fluid character escaped. The patient was put to bed, and the foreign bodies now floating in the vitreous would sometimes come forward into the anterior chamber. One other attempt was made to remove them, but most of them eluded capture. Iritis ensued.

On the 25th of February there existed great tenderness of the ciliary region, reaction severe, and the eye painful. Believing that the condition of the eye at this time was dangerous to its fellow, and having been taught that the foreign bodies could not be extracted, and the patient also being anxious to return to his work as bookkeeper, enucleation was resolved upon, which was performed on the 1st of April.

It is noteworthy in this case that calcareous degeneration of the lens, and the presence of a foreign body upon the retina, were not sufficient causes for irritation, while the calcareous fragments of the lens floating in the vitreous, impinging upon the interior of the eye, were amply sufficient to create serious disturbance.

CASE VII. TRAUMATIC CATARACT ; PARTIAL SPONTANEOUS RECOVERY.—H. B., aged twenty-one, lithographer, admitted November 12, 1892. Four days before, while hunting, had his face burned with powder by the blowing-out of the nipple of his gun, and powder grains were imbedded in his face and right eye, and to a slight degree in the left. The face and eyelids were pretty smartly scorched. The removal of the grains of powder from the cornea was very difficult, because they had penetrated deeply, and were very abundant. Severe reaction took place, which in two days developed into iritis. At the time of admission adhesions of the pupil had occurred, the lens was partially opaque, and a floating body could be seen in the vitreous humor. Its character was never determined. The opacity of the lens was evidently not due to the penetration of foreign bodies into its substance, for the anterior capsule was not wounded. One fragment of powder had lodged upon the iris at its lower part, half-way between the

pupil and its periphery, and continued permanently adherent to the lens. Opacity seems rather to have resulted from the shock the eyeball received. It belonged exclusively to the posterior layers, presenting a general conformity to the natural subdivisions of the lens, and may be said to resemble a bunch of plumes fastened by their stems at the posterior pole of the lens. The antennæ of the male mosquito, if bunched together in this fashion in sufficient number, would, by their overlapping curves, suggest the kind of opacity. Treatment was atropine, rest in bed, fomentations with hot bichloride, 1:10,000, every two hours. The patient was able to be discharged on the 19th.

Posterior synechia remained at the outer and inferior quadrant. Three weeks later it was noted that the opacity, which had become very uniform over the posterior surface, was now assuming a molecular character, and seemed to be disappearing. It was perforated with innumerable holes. The patient was seen from week to week for about six weeks, and a steady disappearance of opacity was noted. In November, 1893, examination showed that the opacity resembled a mass of curled hair at the middle of the posterior surface, of the lens while the fundus could be very fairly seen through the transparent portions. The vision was $\frac{2}{40}$, and the eye perfectly quiet.

Cases of spontaneous disappearance of cataractous opacity are not extremely uncommon. Of traumatic cases we have records by Becker, Brettauer, and others. The same occurrence has been noted in some instances of diabetic cataract. In this case the most probable explanation would seem to be that the concussion of the eye by the explosion, followed so soon by iritis, gave opportunity for a sudden penetration into the lens of inflammatory effusions from the ciliary body, which filled up the spaces which may have been created among its fibres and, for the time being, rendered the fibres œdematous and opaque. This would seem to be probable from the peculiar character of the lines of opacity, inasmuch as they closely simulated the well-known anatomical arrangement. As the iridocyclitis subsided, the lens was enabled to recover its normal state, and transparency was restored, except near the centre, where nutrition is naturally less active than at the periphery. The continued maintenance of the clearness of the lens for a period of ten months seems to be a guarantee of permanency.

CASES VIII. and IX.—TRAUMATIC DISLOCATION OF THE LENS INTO THE VITREOUS.—Recently two cases presented themselves at the clinic of individuals who had suffered severe traumatism by contusion, in each case, of the left eye. The damage done was of a serious character, although in both instances the patients did not lose their sight, but in each individual an accident of a similar kind had occurred in the opposite eye many years previous. Neither patient was able to give the date with accuracy. One said that the eye first injured had met with this accident twenty years before, to his best recollection; and the other put the time at something like ten years before. In each patient it was evident that the lens had been dislocated by the first injury. In the one who placed the accident twenty years before, the lens was found at the bottom of the eye, close to the ciliary body. By a proper convex glass his vision was made $\frac{20}{100}$. In the other patient in whom the injury had not existed so long, it was absolutely impossible to discover any lens, and, after long and careful examination, I was forced to the conclusion that it had undergone absorption. In this patient, also, useful vision was secured by a suitable convex lens, adapted for aphakia.

These patients give us the opportunity to observe what may sometimes happen after depression of the lens into the vitreous, that is to say, visual functions may for many years be preserved. Whereas, a large experience has taught us (chiefly through our predecessors), that the usual result in intentional dislocations of the lens by reclinatio*n*, or any other proceeding, is loss of the eye by chronic irido-choroiditis.

The method of removing a lens, dislocated in the vitreous, by pressure alone, or with merely incidental use of a hook or spoon, is entirely feasible, as has been set forth by Dr. Bull and by Dr. Knapp. The principle by which it is accomplished is also applicable to another class of cases, of which the following is an illustration:

CASE X. HYPERMATURE CATARACT; KERATITIS DIFFUSA. —A. B., aged fifty-two, admitted November, 1893. Has had cataract in the left eye for eight years. In the right eye the lens is normal, vision I. The cataract was markedly hypermature, the cortical substance was milky and granular, looking like thin gruel. No crystals of cholesterine in it. The nucleus was so small that when it was brought forward by inclining his head, its upper margin just extended above the middle of the pupil. Its color was a deep amber.

In my experience with cases of this kind it has always been found difficult to remove the small nucleus, because no adequate pressure could be brought to bear upon it. If sought for by a hook or spoon it would be found to be very elusive and require considerable manipulation for its seizure. I have, in some instances found that such a cataract could be successfully extracted without opening the capsule, of course, making a wound as large as for ordinary cases. Moreover, I have witnessed instances in which the capsule has been opened and the milky fluid seemed to be possessed of exceedingly irritating properties and gave rise to violent reaction, resulting in two cases of which I have knowledge, in loss of the eye. Both of these persons were subjects under twenty years of age, and this result seemed to be due not to the usual traumatism of the operation but, as already intimated, to the irritating properties of the degenerated lens substance. In operating upon the case now reported, I determined to open the capsule and practise the same method of removing the nucleus, which is appropriate to dislocation of the lens into the vitreous. Cocaine was applied, a section a little smaller than usual was made, beginning and ending about $1\frac{1}{2}$ millimetres above the horizontal meridian; the capsule freely opened, the fluid cortex allowed to escape; the lens was noticed to fall backwards from the iris into the vitreous; the sclera became deeply wrinkled at its supero-nasal side, indicating the unnoticed escape of fluid vitreous. Cornea likewise collapsed. A spatula was firmly applied to the lower part of the eyeball as near to its equator as possible, pressing from behind forward. The lens promptly made its appearance in the pupil. Another spatula was placed at the lower border of the cornea and used in the ordinary way to force the lens upwards to the wound. And by this second spatula the lens was pushed upwards and forwards until it emerged from the eye. During all this time the pressure at the equatorial part of the globe below was steadily maintained. The proceeding was slow and regular, without embarrassment, and with no further loss of vitreous. Immediately upon escape of the lens, a solution of boric acid, which, without intention, was of the strength of four per cent., was injected into the anterior chamber with a view of removing as cleanly as possible the molecular matter that might remain, of insuring the restoration of the iris and of filling the globe to its proper capacity. The usual dressing, cotton and gauze bandage was applied. The wound closed promptly, and at the end of twenty-four hours the anterior chamber was established and the cornea began to show signs of haziness at the site of the wound. At the end of forty-eight hours a distinct keratitis had developed which soon produced a diffused opacity of the cornea, reaching almost to its

lower border. Atropine was used in 4 gr. solution, three times a day, and hot fomentations employed for half an hour every two hours during the day. This treatment was steadily kept up, with perhaps more active fomentation than is thus intimated, for ten days, by which time the reaction had practically subsided. The patient was discharged at the end of three weeks with almost imperceptible traces of the diffused opacity, and promises to have good vision.

In attempting to account for the diffused keratitis it is difficult to distinguish between what may have been the consequence of the molecular detritus of the lens, and what may be attributed to the unnecessary strength of the boric acid fluid used in irrigating the eye. Inquiry into the statistics of the Infirmary during the past two years has shown that eight cases of so-called striped keratitis have occurred after cataract extractions of the ordinary kind, and that in all these cases a nearly maximum strength of boric acid solution has been employed for irrigation, which, in most instances, certainly penetrated the anterior chamber. It has, on the other hand, not fallen to my lot to see this corneal reaction when weaker solutions of boric acid have been employed for irrigating the anterior chamber, sometimes very freely. I am convinced that corneal reaction is capable of being produced by strong boric acid solutions, and that we should not use irrigating fluids stronger than one per cent. of boric acid or, still better, the $\frac{1}{10}$ per cent. solution of chloride of sodium, the fluid being blood-warm and sterilized.

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